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Monroe Energy, LLC
4101 Post Road
Trainer, PA 19061
(610) 364-8000

January 30, 2020

FEDEX: 7775 6409 6229

Mr. James Rebarchak
Commonwealth of Pennsylvania
Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

Re: Monroe Energy, LLC – Trainer Refinery
40 CFR 63, Subpart UUU Semiannual Report
Reporting Period: July 1, 2019 to December 31, 2019

Mr. Rebarchak:

In accordance with 40 CFR 63 Subpart UUU, Monroe Energy, LLC's Trainer Refinery hereby submits this semi-annual compliance report (per §63.1575(b)(2)) for the period beginning July 1, 2019 and ending December 31, 2019. Compliance reporting for the applicable MACT II emission limitations and work practices are detailed in the enclosed appendices.

Should you have any questions or comments regarding this report, please contact me at (610) 364-8399.

Sincerely,

Matthew Torell, P.E.

Environmental Leader

Attachment 1 - Responsible Official Certification
Attachment 2 - Excess Emission and Monitoring System Performance Summary
Attachment 3 - UUU Deviation Summary and Corrective Actions
Attachment 4 - Process Descriptions
Attachment 5 - Performance Testing Information
Attachment 6 - Detailed CEMS Downtime

cc: Office of Air Enforcement and Compliance Assistance (3AP20)
U.S. EPA, Region III
1650 Arch Street
Philadelphia, Pa 19103-2029
FEDEX: 7775 6432 6470

Bcc: \\TRN-FS01\shared\HSE\!ENVIRONMENTAL\10 AIR\03 REPORTS\3.2 Semi-Annual MACT UUU &
NSPS J Report\Reporting Year 2019\2H2019



Monroe Energy, LLC
4101 Post Road
Trainer, PA 19061
(610) 364-8000

Responsible Official Certification

Based upon information and belief formed after a reasonable inquiry, I, as a responsible official of the above-mentioned facility, certify the information contained in this report is accurate and true to the best of my knowledge.

A handwritten signature in blue ink, appearing to read "MS for", is written over a horizontal line.

Mark Schuck,
VP, Refinery Operations

1/30/2020

Date

Attachment 2 - Excess Emission and Monitoring System Performance Summary

EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE SUMMARY REPORT

Pollutant (Circle One): SO₂ NO_x TRS H₂S **CO** Opacity

Reporting period dates: From **July 1, 2019** to **December 31, 2019**

Company: **Monroe Energy, LLC**

Emission Limitation: **500 ppm (1-hour average)**

Address: **4101 Post Rd, Trainer PA 19061**

Monitor Manufacturer: **Servomex**

Model No.: **04900C1-4202**

Date of Latest CMS Certification or Audit: **12/17/2019 (Linearity Test)**

Process Unit(s) Description: **FCCU**

Total source operating time in reporting period : **3810 hours**

Emission data summary ¹		CMS performance summary ¹	
1. Duration of excess emissions in the reporting period due to:		1. CMS downtime in the reporting period due to:	
a. Startup/shutdown	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-Monitor equipment malfunctions	0
c. Process problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	12
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	12
3. Total duration of excess emissions x (100) / [Total source operating time]	0.00 %	3. [Total CMS Downtime] x (100) / [Total source operating time]	0.31 %

Notes:

On a separate page, describe any changes since last quarter in CMS, process or controls. **No changes to the CMS, process, or controls have occurred since last reporting period.**

EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE SUMMARY REPORT

Pollutant (Circle One): **SO₂** NO_x TRS H₂S CO Opacity

Reporting period dates: From **July 1, 2019** to **December 31, 2019**

Company: **Monroe Energy, LLC**

Emission Limitation: **250 ppm (12- hour rolling average)**

Address: **4101 Post Rd, Trainer PA 19061**

Monitor Manufacturer: **AMETEK**

Model No.: **Model 921**

Date of Latest CMS Certification or Audit: **11/6/2019 (Linearity Test)**

Process Unit(s) Description: **Claus Sulfur Recovery Plant**

Total source operating time in reporting period: **4416 hours**

Emission data summary ¹		CMS performance summary ¹	
1. Duration of excess emissions in the reporting period due to:		1. CMS downtime in the reporting period due to:	
a. Startup/shutdown	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-Monitor equipment malfunctions	0
c. Process problems	0	c. Quality assurance calibration	3
d. Other known causes	0	d. Other known causes	5
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	8
3. Total duration of excess emissions x (100) / [Total source operating time]	0.00 %	3. [Total CMS Downtime] x (100) / [Total source operating time]	0.18 %

Note: On a separate page, describe any changes since last quarter in CMS, process or controls. **No changes to the CMS, process, or controls have occurred since last reporting period.**

Attachment 3 - UUU Deviation Summary and Corrective Actions

If any deviations occur from standards that use CEMS for compliance, refer to Appendix E to view detailed CEMS downtime information.

Source: SRU

Standard: 250 PPM SO₂ 12-Hr Rolling Average Limit

There were no deviations from this standard during the reporting period.

Source: FCCU

Standard: 500 PPMVD CO 1-Hr Average Limit

There were no deviations from this standard during the reporting period.

Source: FCCU

Standard: L:G Ratio ≥ 0.08 (Per November 22, 2005 AMP) – Demonstrates §63.1564 Compliance for PM and Opacity Standards

There were no deviations from this standard during the reporting period.

Source: Platformer

Standard: 97% HCl reduction with a control device; weekly average Chloride content on catalyst entering Chlorosorb $\leq 1.35\%$ by weight and weekly average Chloride content on catalyst exiting Chlorosorb $\leq 1.8\%$ by weight, 3 times per week on non-consecutive days during catalyst regeneration.

There were no deviations from this standard during the reporting period.

Source: Platformer

Standard: Daily Average Vent Gas Inlet Temperature $\leq 350^{\circ}\text{F}$

There were no deviations from this standard during the reporting period.

Attachment 4 - Process Descriptions

FCCU Process Description

The Fluidized Catalytic Cracking Unit (FCCU) is a refinery process unit used for the production of gasoline. Heavy oil, which is used as the feedstock, is catalytically cracked in a fluidized catalyst bed to produce C3 olefins, C4 olefins, and isobutanes. In the cracking reactor, heavy carbonaceous materials (coke) become deposited on the catalyst, requiring continuous regeneration. The catalyst is circulated to a fluidized bed regenerator where these deposits are combusted. Most of the catalyst particles entrained in the regenerator flue gas are then removed in two stages of cyclones within the regenerator vessel and then are returned to the fluidized bed reactor.

At the Trainer Refinery, the FCCU control devices include a CO Boiler for CO reduction, an Enhanced Selective Non-Catalytic Reduction (eSNCR) unit for NO_x reduction, an electrostatic precipitator for PM reduction and a wet gas scrubber for PM and SO₂.

Catalytic Reforming Unit (Platformer Unit)

The refinery operates one Catalytic Reforming Unit. The purpose of the Platformer is to upgrade low octane feed sources, Heavy Naphtha and Heavy Isocrackate, into a high-octane gasoline component and hydrogen gas. The feed combined with hydrogen recycle gas is heated and passed over a platinum catalyst, where it is converted from low octane naphtha to a gasoline-blending component with a design research octane number in the range of 97 - 101.

SRU

The Claus Sulfur Recovery Unit is designed to react feed H₂S and SO₂ into recoverable sulfur using two trains in parallel. Normally only one train is required to be on-line. The feeds to the unit are sour water gases and acid gases from the Sour Water Stripper and the Amine Unit. Each train consists of a thermal reactor, three catalytic reactors, a steam generator and a 4 pass sulfur condenser. Medium and low-pressure steam is generated in the condensers. The sulfur product is stored in a common heated pit until shipped out by railcar.

The Scot unit is designed to treat the tail gas from both trains of the Sulfur Recovery Unit. The Scot Unit reduces the H₂S content in the tail gas before it is sent to the incinerator stack. The combination of the Sulfur and Scot Units recovers about 99.8% of the sulfur in the feed streams. The Scot Unit consists of an in-line burners, catalytic reactor, quench tower, amine absorber, stripper, and incinerator.

Bypass Lines

The FCCU does not have any bypass lines. The Platformer Chlorsorb Unit line was not bypassed during this reporting period. The Sulfur Recovery Unit line was not bypassed during this reporting period.

Attachment 5 - Performance Testing Information

No performance tests were conducted during this reporting period.

Attachment 6 - Detailed CEMS Downtime

There were no emission exceedances during the reporting period.